

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
5 February 2004 (05.02.2004)

PCT

(10) International Publication Number  
WO 2004/012028 A2

(51) International Patent Classification<sup>7</sup>: G06F  
(21) International Application Number: PCT/IN2002/000159  
(22) International Filing Date: 26 July 2002 (26.07.2002)  
(25) Filing Language: English  
(26) Publication Language: English

(71) Applicants and  
(72) Inventors: GOPI, Kumar, Bulusu [IN/IN]; 79, First Floor, Mahatma Gandhi Road, Nungambakkam, Chennai 600 034, Tamil Nadu (IN). MURALI, Desikan [IN/IN]; 79, First Floor, Mahatma Gandhi Road, Nungambakkam, Chennai 600 034, Tamil Nadu (IN). MUTHUMULA, Ranga, Swami, Reddy [IN/IN]; 79, First Floor, Mahatma Gandhi Road, Nungambakkam, Chennai 600 034, Tamil Nadu (IN). GOPALA, Subramanian, Seethalakshmi [IN/IN]; 79, First Floor, Mahatma Gandhi Road, Nungambakkam, Chennai 600 034, Tamil Nadu (IN).

(74) Agents: DEPENNING, R., G. et al.; Depenning & Depenning, 31 South Bank Road, Chennai 600 028, Tamil Nadu (IN).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD FOR SPECIFYING EQUIVALENCE OF LANGUAGE GRAMMARS AND AUTOMATICALLY TRANSLATING SENTENCES IN ONE LANGUAGE TO SENTENCES IN ANOTHER LANGUAGE IN A COMPUTER ENVIRONMENT

(57) Abstract: A method for specifying equivalence of language grammars and automatically translating sentences in one language to sentences in another language in a computer environment. The method uses a unified grammar specification of grammars of different languages in a single unified representation of all the individual grammars where equivalent production rules of each of the grammars are merged into a single unified production rule. This method can be used to represent the equivalence of computer languages like high level language, assembly language and machine language and for translating sentences in any of these languages to another language.

WO 2004/012028 A2